

**From:** [Morris, Cris@Waterboards](mailto:Morris.Cris@Waterboards)  
**To:** [Stuber, Robyn](mailto:Stuber.Robyn)  
**Cc:** [Medina, Raul@Waterboards](mailto:Medina.Raul@Waterboards)  
**Subject:** FW: Long Beach WRP RTC  
**Date:** Wednesday, May 13, 2015 4:39:48 PM  
**Attachments:** [LBWRP Response to Comments 5-13-15 wUpdated A-3.docx](#)  
**Importance:** High

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Please look at the updated response to A3.

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**From:** Cuevas, Veronica@Waterboards  
**Sent:** Wednesday, May 13, 2015 3:50 PM  
**To:** Medina, Raul@Waterboards; Morris, Cris@Waterboards  
**Subject:** RE: Long Beach WRP RTC  
**Importance:** High

I went ahead and added a draft response to Comment A-3, on Page 7 of 23, w/r/t PMSD. Please see revised document and forward it to Jennifer for review. This is what I added:

While section 10.2.8.2 of the WET Test Method specifies that “When NPDES permits require sublethal hypothesis testing endpoints from Methods 1000.0, 1002.0, or 1003.0 (e.g., growth or reproduction NOECs and LOECs), **within-test variability must be reviewed and variability criteria must be applied** (emphasis added) as described in this section,” the WET Test Method section does not require the use of the PMSD. Subsection 10.2.8.2.1 describes how to calculate the PMSD and other subsequent subsections describe how to compare the PMSD to see if the PMSD falls within an acceptable range, i.e. if PMSD is within the upper and lower bounds.

Subsection 10.2.8.3 reads, “To assist in reviewing within-test variability, **EPA recommends maintaining control charts of PMSDs** (emphasis added) calculated for successive effluent tests (USEPA, 2000b). A control chart of PMSD values characterizes the range of variability observed within a given laboratory, and allows comparison of individual test PMSDs with the laboratory’s typical range of variability. **Control charts of other variability and test performance measures**, such as the MSD, **standard deviation or CV of control responses** (emphasis added), or average control response, also may be useful for reviewing tests and minimizing variability. The log of PMSD will provide an approximately normal variate useful for control charting.”

Use of PMSD is recommended by USEPA when the hypothesis test has endpoints expressed in terms of growth or reproduction NOECs and LOECs. However, the Long Beach WRP permit does not have endpoints expressed as NOEC/LOC, but in terms of Pass or Fail and Percent Effect. In addition, under the 2015 permit, within-test variability will be reviewed and variability criteria will be applied by using control charts and coefficient of variation, as allowed by Subsection 10.2.8.3.

Veronica

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**From:** Medina, Raul@Waterboards  
**Sent:** Wednesday, May 13, 2015 3:12 PM  
**To:** Cuevas, Veronica@Waterboards  
**Subject:** Long Beach WRP RTC